CONTRIBUTION FROM THE ROCKY MOUNTAIN HERBARIUM. IX

NEW PLANTS FROM IDAHO

AVEN NELSON

Most of the plants considered in this paper were collected in Idaho. Since they were secured during a single season by an amateur, a word concerning the collector and the field investigated will not seem out of place. Early in 1910 specimens were received from J. FRANCIS MACBRIDE for determination. In the correspondence that developed it was soon apparent that he was a close observer and deeply interested in the flora of his neighborhood and state. A proposition from him to collect for the Rocky Mountain Herbarium led to the discovery that he was a boy just out of the Boise High School. An agreement was soon reached whereby he was to undertake field work in some part of Idaho.

To determine the least worked and therefore the most inviting field, appeal was made to the two men who probably know the flora of the state better than any others, namely the former professor of botany at the University of Idaho, L. F. HENDERSON, and Professor ELIAS NELSON of the Experiment Station. These were agreed that southwestern Idaho was practically unexplored, particularly the whole Owyhee region including the mountains of that name. Their judgment has been confirmed by the work thus far carried out, and further collections in this very interesting field will be made in 1911.

ERIOGONUM OVALIFOLIUM Nutt.—As the collections of this so-called "aggregate" species multiply, the probability increases that the seemingly quite distinct forms of it represent but one very variable species. The type of the species was the comparatively small yellow-flowered form. Then NUTTALL gave us *E. purpureum*, differing in no respect except in color. It has since been shown that between the two the specimens show all shades of yellow to white, and white to purple. At most then, NUTTALL'S second species

ought not to be recognized as more than a variety, and as a recognizable though not necessarily permanent variation.

What is true of *E. purpureum* Nutt. is equally true of three of SMALL'S segregates. They are based on no permanent characters, since in this genus color and size have been shown to vary with every change in the ecological factors. Two of these species, *E. ochroleucum* and *E. orthocaulon*, occur in the semi-arid portion of the Snake River basin and its tributaries. They may grow intermingled in the same district, as was the case in the superb specimens mentioned below. I therefore propose one varietal name to represent the two as follows.

ERIOGONUM OVALIFOLIUM **celsum.**—*E. ochroleucum* Small, Mem. N.Y. Bot. Gard. **1**:123. 1900; *E. orthocaulon* Small, Bull. Torr. Club **33**:53. 1906.

MACBRIDE'S specimens, soon to be distributed under this varietal name, represent well the two colors, the oval to oblong leaves, and the tall scapes. New Plymouth, Idaho, May 21, 1910, nos. 85 and 86.

ERIOGONUM OVALIFOLIUM **vineum.**—*E. vineum* Small, Bull. Torr. Club **25**:45. 1898.

Besides the wine-colored flowers, this is more noticeably tomentose, hence may be kept distinct from the preceding variety, though like that it merely represents the species in its maximum development.

Stanleya rara, n. sp.—Inflorescence inordinately crowded, becoming 4 or more dm. long, the rachis only moderately stout: pedicels about 10 mm. long, in fruit 15–20 mm.: sepals yellow, linear, about 10 mm. long and 1 mm. or more wide: petals yellow, linear, narrower than the sepals and about three times as long; the claw longer than the sepals and but little narrower than the blade: anthers 3–4 mm. long, at length well exserted and more or less curved or coiled: ovary at full anthesis about 4 mm. long, somewhat shorter than its stipe: pods at maturity filiform, 4–6 cm. long or possibly more, irregularly curved and spreading, on stipes nearly half as long and somewhat longer than the pedicels.

This is a tentative description of a seemingly excellent species, and is described from only a fragment of the plant. This had been gathered for a bouquet by Mrs. CROUTHERS, on a dry hillside, near Big Willow post-office, in Canyon Co., Idaho, about May 25, 1910, where it undoubtedly is indigenous.

This fragment is no. 217 in MACBRIDE'S series. He will try to secure the plant in quantity in 1911.

Thelypodium milleflorum, n. sp.—Tall, branching, wholly glabrous, biennial, 1–2 m. high, the stout main axis and the much slenderer ascending branches a deep purple below, becoming paler upward: leaves coarsely and irregularly dentate to entire, passing from oblong below to linear above; the lower petioles 6–15 cm. long, usually shorter than the blades, becoming shorter upward: inflorescence greatly crowded, at length very long (that of the main axis often 4–6 dm.) but even in fruit quite dense: flowers, pedicels, and even the rachis very pale or milky white: sepals narrowly oblong-linear, slightly cucullate and greenish at the tip, about 5 mm. long: petals very narrow, twice as long as the sepals; the spreading blade nearly linear: the clawlike portion filiform but distinctly expanding again near the base: filaments at length well exserted, and the purple, linear, scarcely sagittate anthers coiled: pods a pure green, in good contrast with the pale pedicels and rachis, almost filiform, 6–10 cm. long, normally strongly ascending or suberect, but often irregularly spreading as if from their weight: stipe 2–3 mm. long; the style about the same length: the ascending pedicels a little longer than the stipes.

This is *T. laciniatum* Endl. in part, some specimens being found in herbaria under that name. That species differs from this in many ways, but noticeably its habitat (on rocks), its smaller size, its laciniate leaves, its shorter, thicker, spreading pods, and opener inflorescence with green pedicels and rachis.

The best specimens are MACBRIDE 234, New Plymouth, Idaho; abundant in rich soils on open slopes; in May, and by June in full fruit. It is also represented by CUSICK 1955, from dry bottom lands, Malheur Co., Oregon; BAKER 1020, Eagle Valley, Ormsby Co., Nevada; COTTON 391, Yakima region, Washington.

RORIPA PALUSTRIS (L.) Bess.—In studying MACBRIDE'S collections, I found a variation of this widely dispersed species that is quite noteworthy. This led to an examination of all the available specimens at hand, as well as of those representing what we have been calling *R. hispida* (Desv.) Brit. In this study it became evident that MACBRIDE'S specimens have the size, habit, and general aspect, and the perfect glabrateness of *R. palustris*, but

the globose or subglobose pods of *R. hispida*. One is therefore driven to the conclusion that these are but variations of one species.

In the present disturbed condition of nomenclature, one scarcely knows what generic designation to employ. However, if one ignores names prior to 1753, the order of the three names commonly employed seems to be *Roripa* Scop., Fl. Carn. 520. 1760; *Radicula* Dell. ex Moench, Meth. 262. 1794; *Nasturtium* R. Br. Ait., Hort. Kew. Ed. 2. **4**:109. 1812.

Following the same plan on the specific name it seems to result as follows:

Roripa terrestris (R. Br.), n. comb.—*Nasturtium terrestre* R. Br., *l.c.*; *N. palustre* DC., Syst. **2**:191. 1821; *Roripa palustris* (L.) Bess., Enum. 27. 1821.

RORIPA TERRESTRIS **hispida,** n. comb.—*Brachylobus hispidus* Desv., Journ. Bot. **3**:183. 1814; *Nasturtium hispidum* DC., *l.c.*; *Roripa palustris hispida* Rybd., Contrib. U.S. Nat. Herb. **3**:149. 1895.

RORIPA TERRISTRIS **globosa,** n. var.—Tall and often declined, 4–10 dm. high, perfectly glabrous; pods globose or subglobose, with a short necklike constriction between pod and receptacle.

MACBRIDE 275 is typical; swampy land, Falk's Store, Canyon Co., Idaho, June 22, 1910; also by AVEN NELSON, Head of Wood's Creek, Albany Co., Wyoming, August 1910.

Spiraea idahoensis, n. sp.—A shrub, wholly glabrous throughout, 10–18 dm. high, branched below; the current year's branches erect, 3–5 dm. long and very leafy: bark of young branches very pale reddish brown: leaves large, ovate to elliptic or often oval, usually rounded-obtuse at both ends but sometimes subacute at apex, nearly regularly serrate often almost to the base, 5–9 cm. long: panicle large, more or less compound, cylindrical or pyramidal, the lower branches of the panicle axillary to the uppermost somewhat reduced leaves: calyx lobes reflexed, triangular-ovate, mostly acute, about as long as the disk: petals rose color, about 2 mm. long, twice as long as the calyx lobes, ovate, subacute or obtuse: filaments slender, more than twice as long as the petals: carpels ovate-oblong, smooth and polished, about 0.5 m. long.

It is singular that this Idaho shrub should so long have passed for *S. Menziesii* Hook. That species finds its typical development along streams and

in cold bogs of the Northwest. It is always more or less pubescent, and its leaves are typically narrower and smaller. Its Idaho counterpart is a shrub of the mountains or foothills, in moist soil but not in marshy or wet places. *S. idahoensis* is reported plentiful throughout southern Idaho.

The type is MACBRIDE 630, collected at Trinity, Elmore Co., August 23, 1910.

Potentilla trina, n. sp.—Perennial from a rough shreddy but slender vertical caudex, 4–8 cm. long, green and glabrate or even quite glabrous: stems less than 1 dm. high, slender but erect, few-leaved and few-flowered: leaves trifoliate: basal leaves on slender petioles 5–8 cm. long; leaflets short-petioled or subsessile, 1–3 cm. long, broadly obovate-cuneate, deeply and incisely toothed, the teeth more or less incised; stem leaves sessile, narrowly cuneate, incisely toothed at apex: cymes very few-flowered: calyx tube sparsely and minutely hirsute; sepals triangular-lanceolate, about 5 mm. long, acute, obscurely ciliolate; bractlets oblong, mostly obtuse, shorter than the sepals: petals obovate, emarginate, 6–8 mm. long: stamens about 20: carpels 20–25.

This is a very near relative of *P. emarginata* Pursh, and may be only a geographical variety of that arctic species. If it stands as a species, it must do so on the strength of its almost glabrate condition, larger and longer rootstocks, larger leaflets, and erect habit.

Collected by MACBRIDE in the Trinity Mountains, on the grassy banks of Star Lake, one of the Trinity Lakes, August 30, 1910, no. 680. Only a few plants were found.

Prunus padifolia, n. comb.—*Cerasus padifolia* Greene, Proc. Biol. Soc. Wash. **18**:59. 1905.

MACBRIDE secured some excellent red cherry specimens on his collecting trip in Idaho in 1910. These led to an examination of GREENE's interesting paper on "Some West American red cherries." A checking up of the specimens in the Rocky Mountain Herbarium in the light of this paper revealed some sheets referable to the above name, including MACBRIDE 443 and 479 from Silver City and Twilight Gulch. He secured two sets of specimens, one typically red-fruited, the other with fruit a clear lemon yellow. Otherwise no differences in the two collections could be seen. A character not mentioned by GREENE is the glandular denticulation of the leaf margin.

Thermopsis xylorhiza, n. sp.—Stems clustered, erect, rather slender, from a branched woody caudex surmounting a stout woody root, 4–7 dm. high, simple and (at maturity) leafless below, sparingly branched above, glabrate and somewhat striate: green,

glabrous above, very sparsely pubescent beneath; the stipules ovate or obovate, obtuse or acutish, 2–4 cm. long, either longer or shorter than the petiole; leaflets oval to narrowly elliptic, obtuse or acutish at apex, mostly somewhat cuneate at base, 4–8 cm. long: raceme of 10–20 rather crowded flowers; calyx finely pubescent; the campanulate tube 6–7 mm. long, the triangular acute teeth half as long; the deep-yellow corolla more than twice as long as the calyx: the young pods erect, straight, white with fine silky pubescence, at maturity greenish and sparingly pubescent, moderately or only slightly arcuate, spreading, 4–8 cm. long and 5–7 mm. broad; the pedicels 5 mm. or less.

So far as known to the writer, the other western species all have a semi-fleshy running rootstock, but aside from the woody character of the caudex and roots this species has other good characters to distinguish it.

Secured by MACBRIDE at Falk's Store, Canyon Co., Idaho, May 24, 1910, no. 99.

Hypericum tapetoides, n. sp.—Depressed perennial, spreading by the slender rhizome-like stems which root at the nodes, very leafy: leaves glabrous, oval or obovate, tapering to the half-clasping base, 5 mm. or less long, longer than the internodes: flowers rarely solitary terminal, usually in cymes of 3–several: sepals 5, similar, narrowly elliptic-oblong, abruptly acute, about 3 mm. long: petals 5, orange yellow, elliptic, very delicate, 5–7-nerved, as long as or longer than the sepals, marcescent: stamens 12–20, distinct, nearly as long as the petals: styles 2–4, equaling the stamens, slightly dilated upward to the truncate or subcapitate summit: capsule ovoid, acute, as long as the sepals: seeds numerous, oblong, minutely longitudinally roughened striate.

Very distinct from *H. bryophytum* Elmer, BOT. GAZ. **36**:60. 1903, and from *H. anagalloides nevadense* Greene, Fl. Fran. 113, apparently the only species to which it makes a close approach. It was found growing in dense mats on sunny mossy, boggy stream and lake banks, usually intermingled with mosses and with these forming thick soppy-wet carpets of green. MACBRIDE 453, Silver City, Owyhee Mountains, in bloom, July 22; no. 570, Trinity, Elmore Co., in fruit, August 1910.

SPHAERALCEA RIVULARIS **diversa,** n. var.—Differing from the species in the green and almost glabrous leaves which are shallowly only 3–5-lobed; the lobes mostly obtuse, often broadly rounded,

never sharply serrate on the margin but varying from entire to merely undulate crenate: flowers not crowded-terminal as in the species, but axillary-pediceled in the upper leaves and in a short nearly naked terminal raceme of 3 or 4 flowers: carpels hirsute-hispid on upper part of the back only.

MACBRIDE 582, moist hillsides, Manyon Creek, Elmore Co., August 11, 1910.

Phaeostoma rhomboidea, n. comb.—*Clarkia rhomboidea* Dougl., Hook. Fl. Bor. Am. **1**:214. 1833; *Opsianthes gaurioides* Lilja, Linnaea **15**:261. 1840.

The genus *Phaeostoma* was established by SPACH (Hist. Veg. Phan. **4**:392. 1835), one species being referred to it, namely *P. Douglasii*, which was the earlier *Clarkia elegans* Dougl. I am not so much surprised that this excellent genus was later suppressed (during the Benthamian era) as I am that it has not been since restored. There are only a very few species referable to it, but these are so aberrant in the genus *Clarkia* that one trying to find them by means of keys now available meets with a number of contradictory and misleading statements. *Clarkia rhomboidea* runs just as readily to *Godetia* as to *Clarkia*, for it requires a decided mental bias to recognize the narrowed base of its petals as a claw.

Removing the species with entire petals from *Clarkia*, it becomes homogeneous in that all the species have clawed, 3-lobed petals, only 4 real stamens, and a stigma evidently lobed. *Phaeostoma*, on the other hand, has entire petals with or without claw, eight perfect subequal stamens, and a stigma with lobes so short that the stigma looks capitate or disciform. It is to be noted too that in *Phaeostoma* some of the leaves are opposite. The other species referable to this genus are as follows:

Phaeostoma elegans, n. comb.—*Clarkia elegans* Dougl., Lindl. Bot. Reg. *t. 1575*.

Phaeostoma xanthiana, n. comb.—*Clarkia xanthiana* Gray, Proc. Bost. Soc. Nat. Hist. **7**:145. 1861.

Phaeostoma parviflora, n. comb.—*Clarkia parviflora* Eastwood, Bull. Torr. Club **30**:492. 1903.

Sphaerostigma implexa, n. sp.—Annual, more or less branched from the base and upward, 1–2 dm. high; the stems and branches puberulent and purplish tinged, the bark not exfoliating; the branches ascending, almost as long as the main axis: leaves glabrate or puberulent, oblanceolate to oblong-lanceolate, tapering to a short petiole; the lower 5–7 cm. long, upward passing into the

narrow bracts which are gradually reduced; raceme crowded, becoming narrow and more or less secund, puberulent: calyx lobes lanceolate, 5–6 mm. long, and about twice as long as the tube: petals greenish- or yellowish-white, suborbicular, abruptly acutish, or with a tooth on the subtruncate apex, as long as the calyx lobes: capsule narrowly linear, subcylindrical and only slightly enlarged downward, at maturity 20–25 mm. long and greatly contorted or implexed.

The habit and general appearance of this suggests *S. decorticans* (H. & A.) Small, from which it is far removed geographically and otherwise.

Type, MACBRIDE 27, from Falk's Store, Canyon Co., Idaho, dry stony hillsides, May 17, 1910.

Onagra (OENOTHERA) **ornata,** n. sp.—Stout biennial, widely spreading from the summit of a rather large woody root; the several stems assurgent and simple, 5 dm. or more high, very leafy, densely and finely pubescent, with some scattering ciliate hairs: leaves narrowly oblong-lanceolate to linear-lanceloate, the largest 10–14 cm. long, reduced toward the base and into the bracts (first year leaves not seen), with short dense subcinerous pubescence: inflorescence crowded: calyx densely white hirsute-pubescent, at anthesis its tube less than 4 cm. long, about twice as long as the ovary, its lobes as long as or longer than the tube: corolla a deep golden yellow, unchanged in drying or shading to orange; the petals broadly triangular-obovate or obcordate, as long as the calyx lobes: anthers yellow, 12–15 mm. long; the filaments much shorter than the petals: style not protruding from the bud but elongating and surpassing the stamens as the buds open: capsule pubescent, 2–3 cm. long, somewhat thickened on the angles and only slightly tapering: seeds angled.

This highly beautiful evening primrose, coming as it does from a state supposedly fairly well worked, is a distinct surprise. Doubtless, however, it is an indigenous plant. The excellent key prepared by Dr. R. R. GATES (Mo. Bot. Gar. Rept. **20**:126. 1909) now makes it possible at least to place species of this genus in fairly well-marked groups. This proposed species will be somewhat aberrant in the *O. grandiflora* group. That the present species has nothing in common with the *O. biennis* group is evident not only from GATES's key, but is attested by the well-known fact that in that group the petals of all the recognized western species (*O. strigosa, O. Hookeri,* etc.) become

paler, pinkish or even white, on drying. GREENE is the only writer who has mentioned a western form (California) in which the petals remain yellow, or turn a deeper yellow, but he referred this to the misunderstood *Oenothera grandiflora* Ait., which Miss VAIL (Torreya **5**:9. 1905) has since definitely located for us. It seems strange, however, that neither HOWELL nor PIPER make any mention in their floras of the large-flowered species represented by this and the next.

MACBRIDE reports this species as scattering in the foothills but more abundant upon the adjacent mountain slopes, near Boise, Idaho; no. 262, June 18, 1910.

Onagra (OENOTHERA) **Macbrideae,** n. sp.—Annual, from a rather slender, vertical taproot: stem simple below or sometimes with one or two smaller accessory erect stems from the crown, usually sparingly branched above, 4–8 dm. high, glabrate in appearance but with a sparse crisped pubescence and a few longer ciliations: leaves glabrate or more evidently pubescent, especially on the midrib or veins which are often substrigose; the radical leaves narrowly oblanceolate, tapering above to the acute apex; cauline leaves similar but smaller and passing into the sessile bracts: inflorescence open from the first: calyx lobes nearly glabrous, about 3 cm. long, shorter than the glabrous slender tube, the linear tips short: petals yellow, thin, fading to a deeper yellow or orange red, obovate-obcordate, about 4 cm. long, twice as long as the filaments: anthers more than 1 cm. long: pistil not protruding from the bud, about equaling the petals: capsule moderately fusiform, nearly straight, and 8-costate, 2–3 cm. long: seeds apparently wing-angled.

Two such splendid plants as these by one collector, seem quite an achievement for one season. In so limited a genus, since both are from the same state, one might suspect that they should be united, but that is impossible, for one is a coarse, pubescent, spreading biennial with woody stems and crowded inflorescence: the other a glabrate, erect, herbaceous annual with few and much larger flowers.

That this species is indigenous can scarcely be doubted. It was secured more than 50 miles from a railroad in a practically uninhabited desert area in the Owyhee Mountains, Idaho. It affords me much pleasure to dedicate it to Mrs. C. M. MACBRIDE, who so industriously and discriminatingly assisted her son in the field work during most of the season of 1910. Type no. 473, Twilight Gulch, July 27, 1910.

Dodecatheon dispar, n. sp.—Glabrous throughout, obscurely, if at all, granular-glandular in the inflorescence: rootstock short, thick,

ascending or erect, producing an abundance of fleshy roots: leaves numerous, oblanceolate, tapering gradually into the long, margined base, tapering lanceolately toward the subacute apex also, 2–3 dm. long: scapes 4–6 dm. high, few-flowered (1–6), the pedicels very unequal: calyx tube obconical, about 5 mm. long; calyx lobes linear-lanceolate, longer than the tube: the sinuses broadly rounded: corolla lobes lance-linear, one-half longer than the sepals, the tube very short: stamens distinct and sessile, stout subulate, as long as the sepals: capsule circumscissile near the apex, then splitting at the summit only into 5 valves, each of which opens for a shorter distance in the dorsal suture, ovoid to oblong, equaling the calyx lobes.

Among the operculate species, having distinct anthers, I can find none with which to compare this large glabrous form.

MACBRIDE 672, moist flats near the Trinity Lakes, Elmore Co., Idaho, August 29, 1910.

COLLOMIA GRANDIFLORA **axillaris,** n. var.—Stems slender, cinerous-puberulent, 3–5 dm. high: leaves puberulent: the capitate flower clusters small and few-flowered, on very short foliar-bracted branchlets axillary in most or even all of the leaves, the terminal cluster often not much larger than the others: calyx very glandular.

Collomia grandiflora is thus seen to be exceedingly variable. Any one comparing this variety with material typical of the species would have no hesitation in declaring them remarkably distinct. But with *C. grandiflora diffusa* Mulford before you, and a goodly number of intermediates between the species and the varieties, one hesitates to name it at all. So striking a variation, however, ought to be designated in some way.

MACBRIDE 580 is the type; Trinity, Elmore Co., August 8, 1910, open hillsides. Less well represented by his no. 376, Silver City, July 14, 1910, steep hillsides.

Phlox aculeata, n. sp.—Depressed-caespitose on the intricately slender-branched caudex: stems slender, sparsely crisped, viscid-pubescent, especially above, the internodes short or nearly wanting: leaves densely crowded, filiform, straight or curved, rather rigid and aculeate, the midrib and margins slightly thickened, obscurely puberulent and the uppermost also minutely glandular; usually only 10–12 mm. long but often a few of them are a half longer: flowers solitary or more often 3–5 at the ends of the branchlets, on pedicels 3–7 mm. long: calyx densely glandular-pubescent,

apparently cleft nearly to the base: its lobes nearly linear, scarious on the slightly broadened base, acuminate and aculeate above, 7–8 mm. long: corolla usually a deep pink, shading to lighter or even white; its tube a half longer than the calyx; its lobes narrowly ovate, rounded and obscurely denticulate at summit, about 8 mm. long: style and the longer stamens as long as the corolla tube: capsule large, spreading the calyx lobes apart, 4–5 mm. long: seeds oblong-ovate, rugulose and minutely puncticulate.

It might be referred to the *P. caespitosa* group but for the usually 3–5-flowered cymes which relate it to the *Kelseyi* group (5 species), and of these it is most nearly related to *P. pinifolia* Brand., which is erect and with calyx and pedicels pilose and not glandular.

MACBRIDE tells me this is common on the dry bench lands in the vicinity of New Plymouth, in the Payette Valley. His collection, no. 73, New Plymouth, May 20, 1910, supplies the type.

Phacelia luteopurpurea, n. sp.—Slender annual, sparingly branched from the base and upward, hispidly short-hirsute, 1–2 dm. high: leaves 2–5 cm. long, somewhat irregularly bipinnate, the oblong-linear lobes rarely few-toothed: inflorescence rather densely and conspicuously dark glandular-pubescent: sepals linear, spatulate, as long as the corolla tube and exceeding the mature capsule, hispid as well as glandular: corolla narrowly campanulate; the tube yellow or yellowish, only 3–4 mm. long, more than twice as long as the broadly rounded spreading purple lobes: stamens nearly as long as the corolla tube, inserted in the margin of pocket-like depressions near the base but without any vertical folds: style 2-cleft at apex only: capsule ellipsoidal, 2 mm. or more long; the ovules about 16; the seeds often fewer, irregularly oblong, with fine transverse acute rugulae.

Most nearly related to *P. bicolor* Torr., but at once distinguished by its glandular pubescence and short corolla. These two, with *P. glandulifera* Piper, *P. Ivesiana* Torr., and *P. Fremontii*, are the members of the section EUGLYPTA Wats. (MICROGENETES A. DC.).

The type is MACBRIDE 84, New Plymouth, Idaho, May 21, 1910; sandy soil.

Madronella purpurea (Howell), n. comb.—*Monardella purpurea* Howell, Fl. N.W. Am. 550.—Low, scarcely more than 2 dm. high, the shrubby base freely branched: twigs of the season very numer-

ous, slender, simple, puberulent, 10–18 cm. high, very leafy: leaves entire, oblong or ovate-lanceolate, subacute, rather thick, obscurely puberulent or nearly glabrous, 12–25 mm. long, usually much exceeding the internodes, tapering into a short petiole: head of flowers close, 15–20 mm. high and about as broad; involucral bracts in two rows, the outer only slightly shorter, all obovate: calyx tube about 10 mm. long, minutely hirsute; the small triangular teeth softly hirsute: corolla tube minutely pubescent, distinctly exceeding the calyx, its linear purple lobes about half as long as the tube.

GREENE'S argument (Leaflets **1**:168) for discarding the name *Monardella* seems convincing; therefore, I transfer two most excellent species. The above is re-characterized in the light of MACBRIDE'S perfect specimens from Silver City, in the Owyhee Mountains, no. 434, growing in granite soils.

Madronella parvifolia (Greene), n. comb.—*Monardella parvifolia* Greene, Pl. Baker. **3**:22. 1901; appearing in COULTER and NELSON'S *Manual* as *Monardella parviflora*, a slip in copying.

LITHOSPERUM RUDERALE **lanceolatum,** n. comb.—*L. lanceolatum* Rydb., Mem. N.Y. Bot. Gard. **1**:233. 1900.

There can be little doubt that PIPER is right (Contrib. U.S. Nat. Herb. **11**:486. 1906) in replacing *L. pilosum* Nutt. by *L. ruderale* Dougl.; but not in reducing *L. lanceolatum* to complete synonomy. RYDBERG'S name probably should be retained as representing a recognizable variety. The characters on which he relied to separate it specifically from its nearest ally, *L. pilosum*, are characters of degree, mainly size. This character may so readily be accounted for by environment that one is not justified in giving more than varietal significance to it. In the light of most remarkable specimens of this variety secured by MACBRIDE at Big Willow, Canyon Co., no. 110, the salient characters may be restated as follows:

Stems very numerous, stout 4–6 dm. high: the inflorescence paniculately branched, sepals elongating and surpassing the very large nutlets, which are distinctly keeled and provided with a conspicuous flaring white polished collar bordering the broad concave basal scar.

Pentstemon Macbridei, n. sp.—Caudex woody, subterranean: stems several to many from each of the few crowns of the caudex, puberulent, slender, simple, erect, closely and equably leafy, 1–3 dm. long exclusive of the ample inflorescence: leaves puberu-

lent, narrowly linear, tapering to both ends, 3–6 cm. long, all sessile except the lowest which are somewhat reduced in size and short-petioled, the upper passing into the bracts which are gradually reduced upward: the cymose panicle ample, 1–2 dm. long, or often longer, the open, lower branchlets more or less elongated and bearing simple or compound cymes, puberulent as are also the pedicels which are often much longer than the calyx and with a small pair of bractlets: sepals broadly ovate-lanceolate, acute, green and glabrate with subscarious margin, 5–6 mm. long: corolla showy, bluish-purple, gradually dilated, moderately bilabiate, glabrous within and without, its tube 14–16 mm. long, its oval-oblong lobes spreading, about 5 mm. long: anthers saccate, opening only above the middle, glabrous even on the line of dehiscence, sterile filament flattened at apex, wholly glabrous.

This beautiful *Pentstemon* seems not to be closely related to any described species except *P. gracilenta* Gray, from which it is readily distinguished. That has glabrous herbage and is glandular pubescent in the inflorescence. Its leaves are broader and largely basal, upwardly becoming distant and reduced; the relatively smaller and narrower inflorescence is naked-peduncu-late; and the corolla is smaller and the sterile filament more or less bearded.

I take pleasure in naming this for my young friend J. FRANCIS MACBRIDE, who collected so industriously during the summer of 1910. The type is no 105, secured on loamy slopes, near Big Willow, Canyon Co., Idaho, May 27.

Pentstemon perpulcher, n. sp.—Stems few–several from a short thick woody caudex, 4–8 dm. high including the inflorescence, erect or ascending, puberulent below, becoming glabrous above: basal leaves narrowly oblanceolate, 3–10 cm. long. including the tapering base and petiole; cauline linear-lanceolate, with sessile clasping base, reduced upward and passing into the linear bracts: thyrsus crowded or more open, rather narrow and secund, 1–3 dm. long: sepals glabrous, ovate, acute with subscarious and minutely erose margins: corolla blue, mostly less than 20 mm. long, with moderately dilated glabrous throat and oval lobes: anthers dehiscent, glabrous; sterile filament stiffly bearded at the tip, not at all dilated.

I hesitate to designate another species in the *P. glaber* group. Several segregates have already been published by various authors, none of which, however, seems to have anything to do with the specimens in hand. The

characters relied upon to separate the new species are (*a*) the erect slender stems with the narrow leaves and secund thyrse, giving the plant the aspect of *P. unilateralis* Rydb.; (*b*) the pronounced puberulence of the plant below the inflorescence; (*c*) the short corolla, a third shorter than any of the other species of the *P. glaber* group; (*d*) the glabrous anthers; (*e*) the habitat, the plant seemingly much at home on dry banks of the sage brush deserts of western Idaho. All of these characters are directly opposed to the accepted ones of typical *P. glaber* Pursh.

MACBRIDE 80, New Plymouth, Canyon Co., Idaho, May 21, 1910, is the type.

Pentstemon Woodsii, n. sp.—Moderately short pubescent throughout, and more or less glandular upward: stems wholly herbaceous, from the branches of a short woody subterranean caudex, erect, leafy, terminating in a small cyme of three or five flowers: leaves not at all coriaceous, oblong to oblong-lanceolate, acute, ascending, dentate or denticulate except the lower which are smaller than the others and entire, the larger 3 dm. or more in length and much longer than the internodes: sepals narrowly lanceolate, about 10 mm. long: corolla purplish blue, gradually dilated upward, about 3 cm. long, its oval-oblong lobes less than 5 cm. long, finely woolly in the throat on the lower lip: anthers dehiscent through the junction of the two cells but not explanate, finely matted–woolly; sterile filament not dilated at apex, the very tip bearing a few long woolly hairs: style slender, scarcely exserted but surpassing the included stamens.

I would refer the present specimens to *P. montanus* Greene (of which I have seen no authentic specimens) were it not that GREENE says of that "leaves cinerously puberulent, corolla pink-purple, and sterile filament naked." He would hardly have failed to mention the decidedly glandular pubescence of the inflorescence and the thin, not at all leathery, leaves. In TWEEDY'S specimens, cited as the type, it is mentioned that the corollas blacken in drying, which is not the case at all in *P. Woodsii.*

The fine specimens taken as the type were received from Mr. C. N. WOODS, Supervisor of the Sawtooth Forest Reserve, no. 265, for whom it is a pleasure to name the species.

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